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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/646,039 | 09/13/2000 | Frank Uldall Leonhard | 859-105P | 3790 |

2292 7590 03/29/2004

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

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| EXAMINER |
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KNEPPER, DAVID D

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| ART UNIT | PAPER NUMBER |
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2654

DATE MAILED: 03/29/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/646,039

Applicant(s)

LEONHARD, FRANK ULDALL

Examiner

David D. Knepper

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2000 and 13 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 18-22 is/are rejected.
- 7) ☒ Claim(s) 13-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3 and 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1. Applicant's correspondence filed on 13 sep 2000 and 13 Oct 2000 (Amendment and IDS papers #3 and IDS paper #4) has been received and considered. Claims 1-22 are pending.

Title

2. The title is objected to because the words chosen are too broad and verbose. A suggested title is --Laplace Transform for Transient Speech Analysis--.

Abstract

3. The Abstract of the Disclosure is objected to because the first sentence implies that the invention is limited to an undefined "parameter" with no practical use. The first sentence should be deleted. Correction is required. See M.P.E.P. § 608.01(b).

Drawings

4. The drawings are objected to because none of the figures are labeled with reference numerals. Labels are required for the drawings and the specification for proper reference (see 37 CFR 1.83, 1.84 and 1.85). Correction is required.

Priority Claims

5. The applicant(s) should check their filing receipts and/or the Patent Application Information Retrieval (PAIR) system for the acknowledgment of their **domestic** priority or benefit claims (if any) under 35 USC 119(e), 120 or 121 (37 CFR 1.78).

Specification

6. The disclosure is objected to because of the following informalities: Figure 1 shows nothing but a black box. The description supports this figure with nothing more than equation (1) on page 12 which indicates that any invention supported by this figure is purely mathematical. A figure is needed to show that the equation may be applied in some way to a particular use or physical transformation of data such as speech. The elements of figure 13 require reference numbers for proper labeling.

Appropriate correction is required.

Claims

7. **35 U.S.C. § 101 reads as follows:**

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title".

8. Claims 1-12 and 18-22 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

The following analysis is made in accordance with the Computer-Implemented Invention Guidelines (see MPEP 2106).

9. **Identify and Understand Any Practical Application Asserted for the Invention**

The specification does teach that the invention may be applied to a practical application. The equation of claim 1 is referenced in the specification as having a particular use for the analysis of transients if used to analyze speech data.

10. **Review the Detailed Disclosure and Specific Embodiments of the Invention to Determine What the Applicant Has Invented**

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The specification as a whole indicates that the invention is directed towards analyzing speech to detect transients. The analysis above was performed in order to point out what practical application is taught by the specification for using the claimed calculations.

It is assumed that implementation is possible on any programmed computer. No particular drawing is shown to describe the particular hardware of the system or group of components which perform the claimed calculations or software. No particular hardware component is described in the specification for implementing the equations which enable the claim limitations. Figure 1 is a black box with no designation that would support the particular application that is suggested in the specification.

11. Review the Claims

The subject matter of a properly construed claim is defined by the terms that limit its scope. It is this subject matter that must be examined. As a general matter, the grammar and intended meaning of terms used in a claim will dictate whether the language limits the claim scope.

The claimed device is not directed towards the practical application but is towards “determination of a parameter of a system generating a signal containing information about the parameter” (claims 1 and 19). A parameter of a parameter fails to indicate any practical application.

The step “in accordance with...” the equation indicates the disclosed equation of page 25, or any functionally equivalent equation regardless as to what the data would represent.

A search of the prior art was conducted.

12. Consider the Breadth of 35 USC §101 Under Controlling Law

Federal courts have held that §101 has certain limits. The phrase "anything under the sun that is made by man" is limited by the text of §101, meaning that one may only patent something that is a machine, manufacture, composition of matter or a process.¹

The subject matter courts have found to be outside the four statutory categories of invention is limited to abstract ideas, laws of nature and natural phenomena. These three exclusions recognize that subject matter that is not a practical application or use of an idea, a law of nature or a natural phenomenon is not patentable.²

13. Classify the Claimed Invention as to Its Proper Statutory Category

In this case, the invention as set forth in the written description is statutory, but the claims define subject matter that is not. The features of the invention that would render the claimed subject matter statutory if recited in the claim is to include speech input to the system such that it is converted in form to the desired data. This would place the claims into a so called "safe harbor" by requiring a physical act outside a computer (the physical input of speech and subsequent change of physical attributes thereof).

Another option would be to add limitations which indicate the practical use of the resultant data in an overall system.

14. Nonstatutory Process Claims

¹See, e.g., Alappat, 33 F.3d at 1542, 31 USPQ2d at 1556 (Fed. Cir. 1994); In re Warmerdam, 33 F.3d 1354, 1358, 31 USPQ2d 1754, 1757 (Fed. Cir. 1994).

²See, e.g., Rubber-Tip Pencil co. v. Howard, 87 U.S. 498, 507 (1874) ("idea of itself is not patentable, but a new device by which it may be made practically useful is"); Mackay Radio & Telegraph Co. v. Radio Corp. of America, 306 U.S. 86, 94 (1939) ("While a scientific truth, or the mathematical expression of it is not a patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be."); In re Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759 ("steps of 'locating' a medial axis, and 'creating' a bubble hierarchy . . . describe nothing more than the manipulation of basic mathematical constructs, the paradigmatic 'abstract idea'").

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A claimed process that consists solely of mathematical operations is nonstatutory whether or not it is performed on a computer.

Claims 1-12 and 18-22 fall into this nonstatutory class because they rely solely on the equation disclosed on page 25 and do not apply to any particular physical data or to a particular application.

15. Statutory Subject Matter

A machine is: a concrete thing, consisting of parts or of certain devices and combinations of devices. *Burr v. Duryee*, 68 U.S. (1 Wall.) 531, 570 (1863).

16. Statutory Process Claims

Claims 13-17 fall into this statutory class because they encompass a safe harbor by transforming the data into actual sound that may be heard by an animal ear.

17. Conclusion

In view of the above analysis, the claimed subject matter of claims 1-12 and 18-22 is non-statutory because they consist solely of mathematical operations without some claimed practical application.

Prior Art

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Scarr (3,573,612) shows that it is well known to use a Laplace transform to detect transients in speech (col. 1, lines 28-34).

Kellett (4,343,969) shows that it is well known to use a Laplace transform to detect transients in speech (col. 1, line 64).

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Weaver (4,882,754) shows that it is well known to use a Laplace transform to detect transients in speech (col. 17, line 32).

19. Claims 13-17 are objected to as dependent upon rejected base claims but would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

While the prior art shows that it is well known to use a Laplace transform to detect transients in speech, the prior art does not show the particular equation utilized in claims 1 and 19. If re-written to overcome the rejection under 35 USC 101, claims 13-17 would be in condition for allowance.

20. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

TC2600 Fax Center
(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

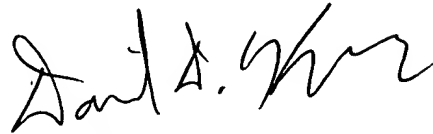
21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Knepper whose telephone number is (703) 305-9644.

The examiner can normally be reached on Monday-Thursday from 07:30 a.m.-6:00 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (703) 305-9645.

Any inquiry of a general nature or relating to the status of this application should be directed to customer service whose telephone number is (703) 306-0377.

A handwritten signature in black ink, appearing to read "David D. Knepper". The signature is fluid and cursive, with the first name "David" being more prominent than the last name "Knepper".

David D. Knepper
Primary Examiner
Art Unit 2654
March 21, 2004